



Please type a plus sign (+) inside this box ->

PTO/SB/21 (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

1775

TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

		Application Number	09/755,437
		Filing Date	01/05/2001
		First Named Inventor	Richard L. McCreery
		Group Art Unit	RECEIVED
		Examiner Name	JUL 01 2002
Total Number of Pages in This Submission	23	Attorney Docket Number	OSU1159-141A Technology Center 2600

ENCLOSURES (check all that apply)			
<input type="checkbox"/> Fee Transmittal Form	<input type="checkbox"/> Assignment Papers (for an Application)	<input type="checkbox"/> After Allowance Communication to Group	
<input type="checkbox"/> Fee Attached	<input checked="" type="checkbox"/> Drawing(s)	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences	
<input type="checkbox"/> Amendment / Reply	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief)	
<input type="checkbox"/> After Final	<input type="checkbox"/> Petition	<input type="checkbox"/> Proprietary Information	
<input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Status Letter	
<input type="checkbox"/> Extension of Time Request	<input type="checkbox"/> Power of Attorney, Revocation	<input checked="" type="checkbox"/> Other Enclosure(s) (please identify below):	
<input type="checkbox"/> Express Abandonment Request	<input type="checkbox"/> Change of Correspondence Address		
<input type="checkbox"/> Information Disclosure Statement	<input type="checkbox"/> Terminal Disclaimer		
<input type="checkbox"/> Certified Copy of Priority Document(s)	<input type="checkbox"/> Request for Refund		
<input type="checkbox"/> Response to Missing Parts/ Incomplete Application	<input type="checkbox"/> CD, Number of CD(s) _____		
<input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53			
Remarks		RECEIVED OCT 04 2002 Technology Center 2600	
		COPY OF PAPERS ORIGINALLY FILED	
		RECEIVED SEP 19 2002 Technology Center 2100	

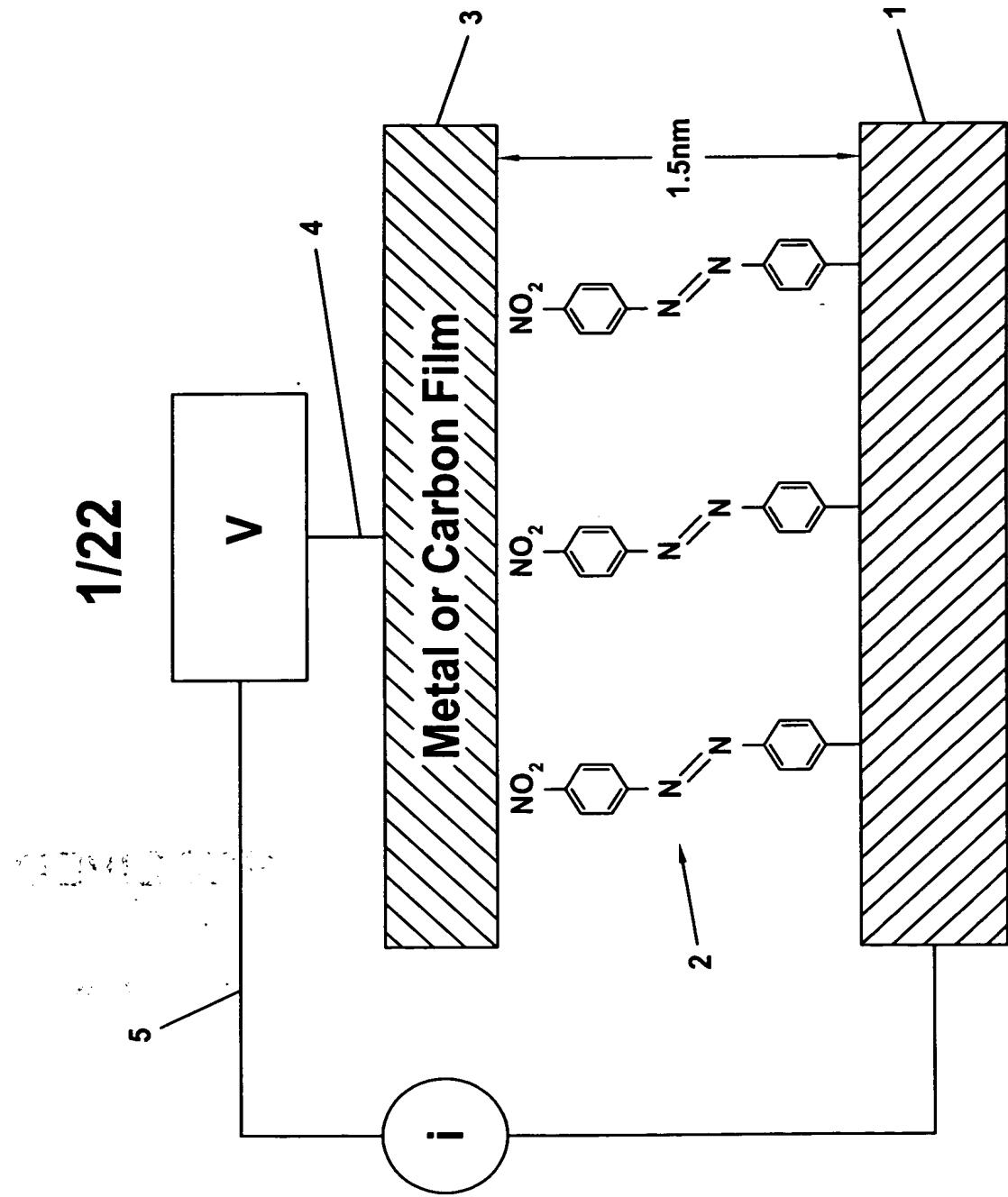
SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
Firm or Individual name	Roger A. Gilcrest
Signature	
Date	May 17, 2002

CERTIFICATE OF MAILING	
I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231 on this date: May 17, 2002	
Typed or printed name	Sheri L. Burke, Paralegal
Signature	
Date	May 17, 2002

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be send to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

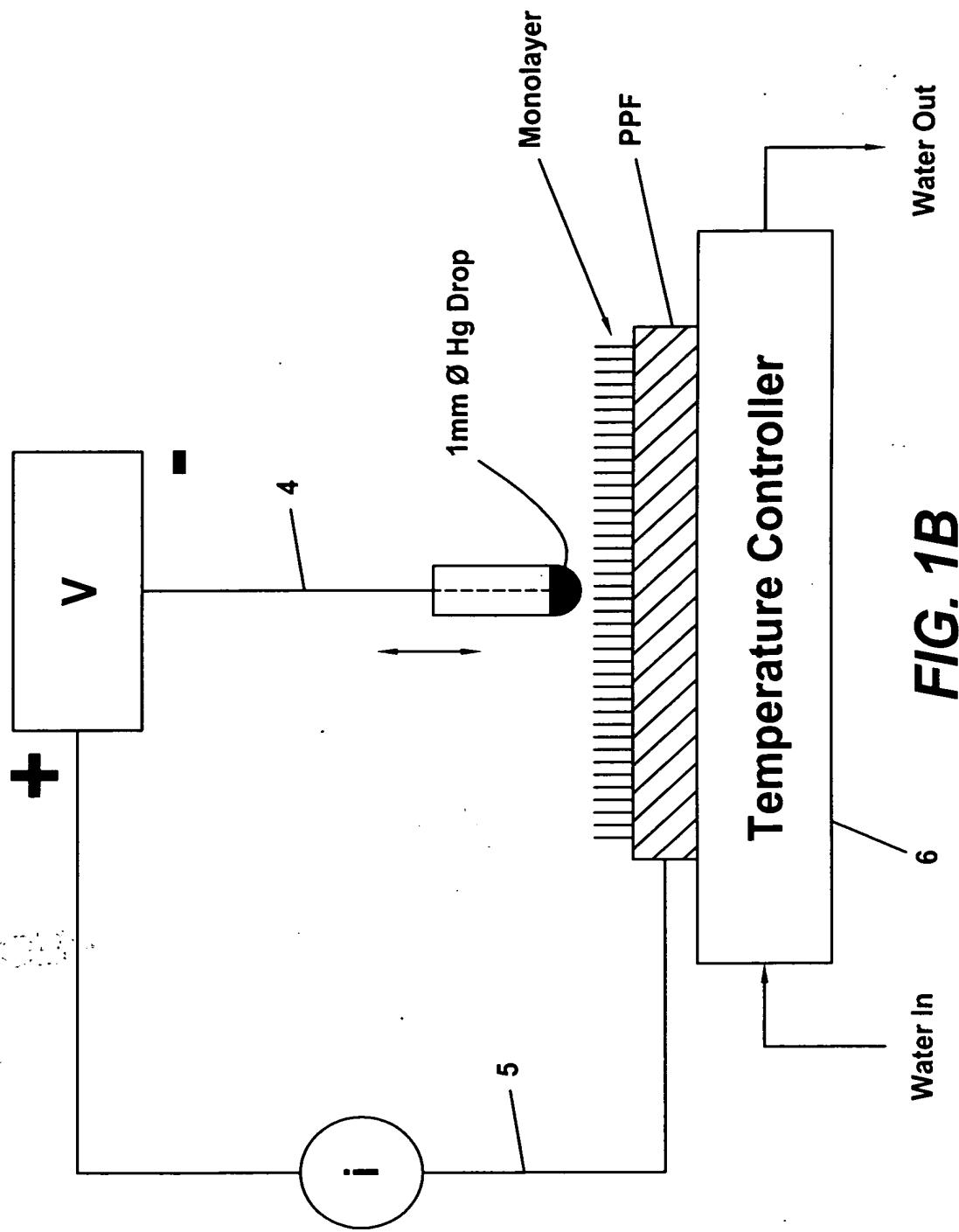
RECEIVED
DEC 04 2002

1/22



Carbon Substrate (PPF)
FIG. 1A

2/22



3/22

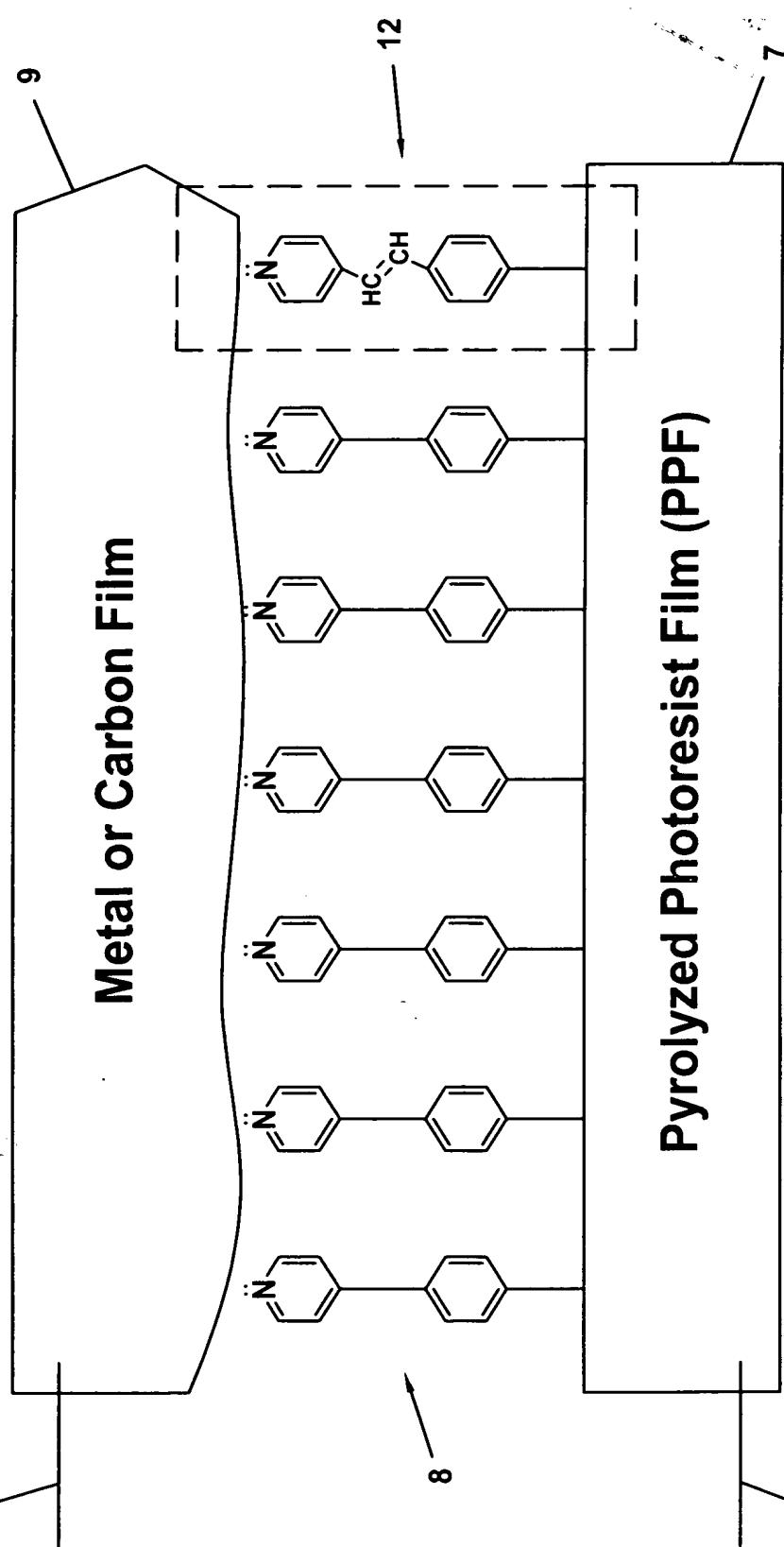
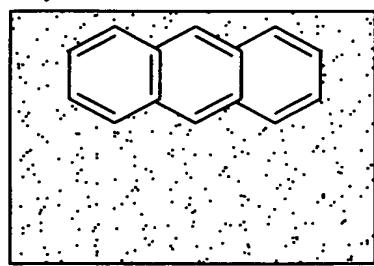


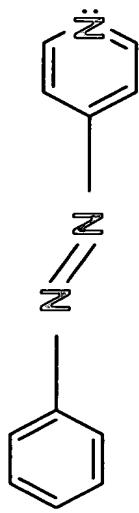
FIG. 2

4/22

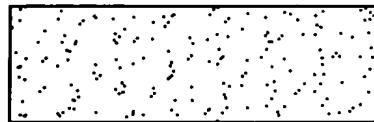
CARBON FILM



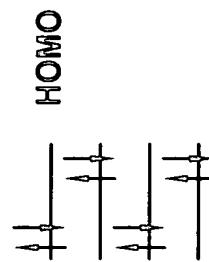
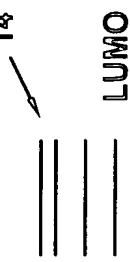
MONOLAYER
(for example)



METAL FILM



carbon orbitals



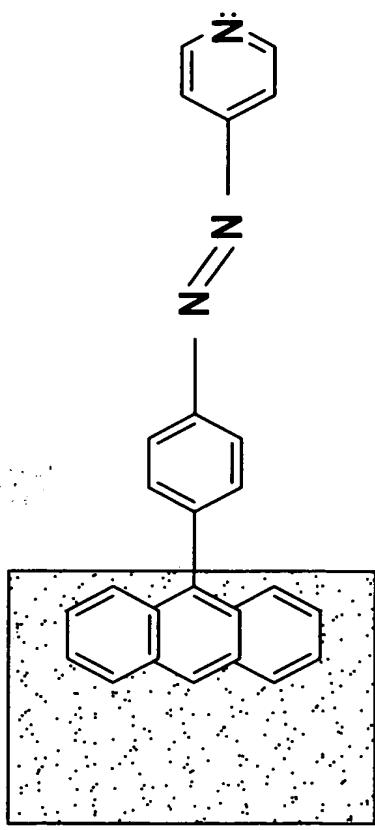
molecular orbitals

metal orbitals

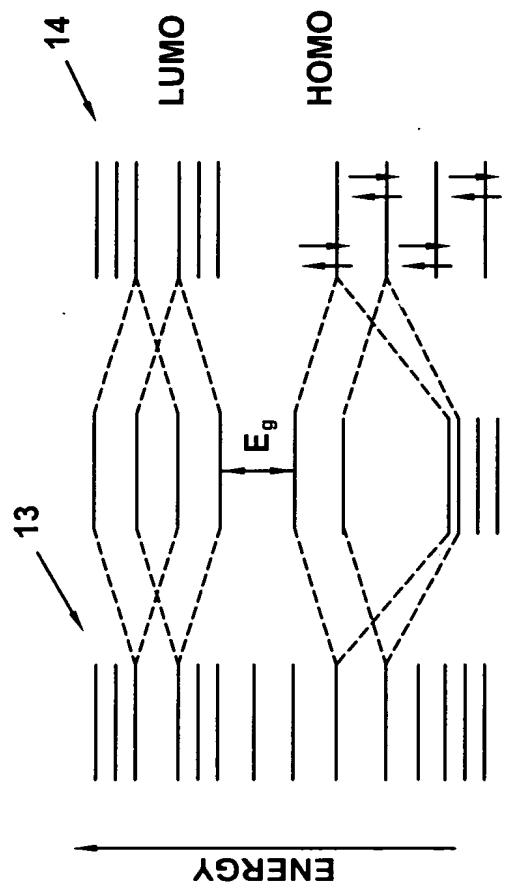
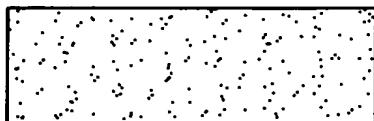
FIG. 3

5/22

Chemically bonded organic monolayer on PPF



METAL FILM



carbon orbitals mix with monolayer orbitals

FIG. 4

metal orbitals

6/22

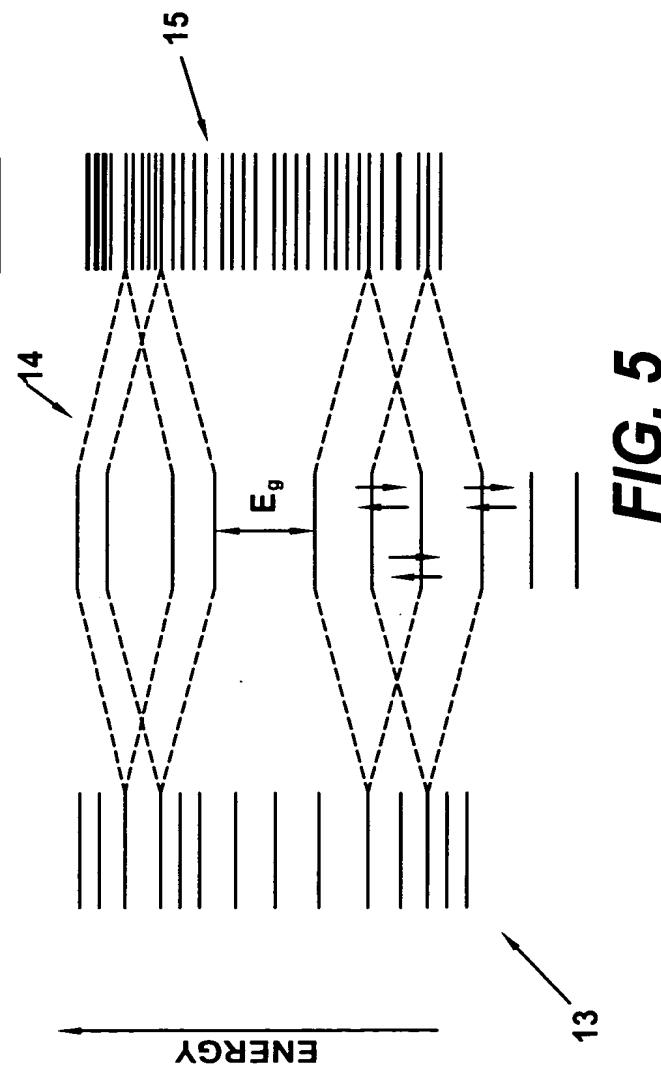
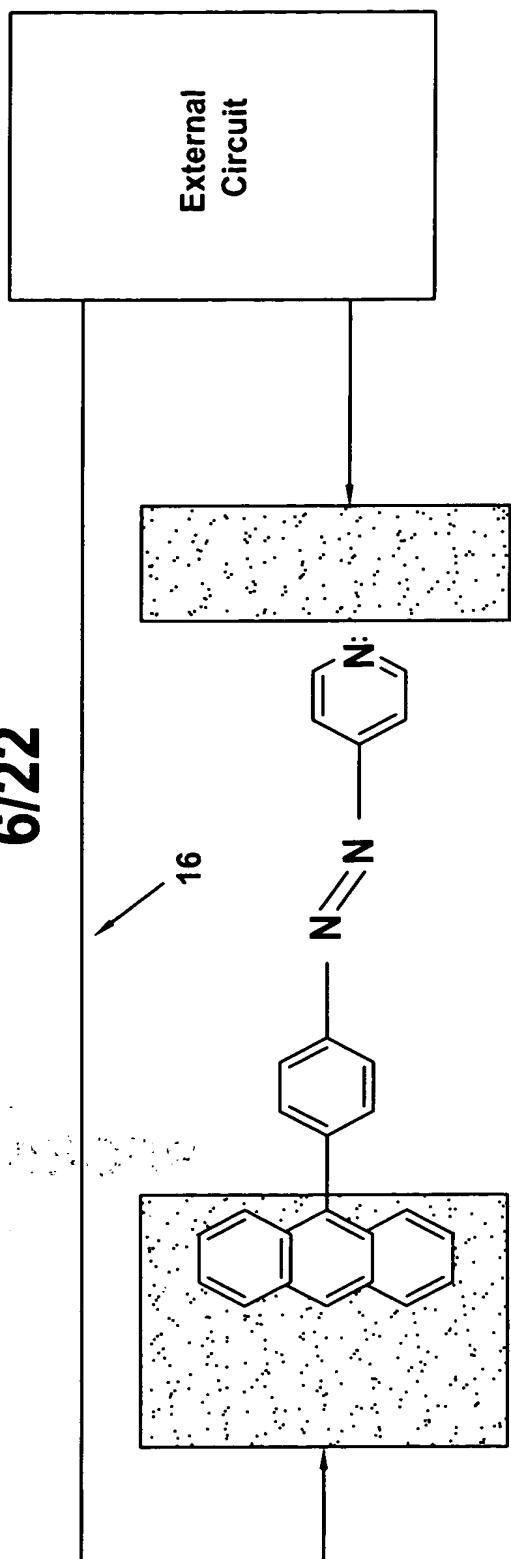
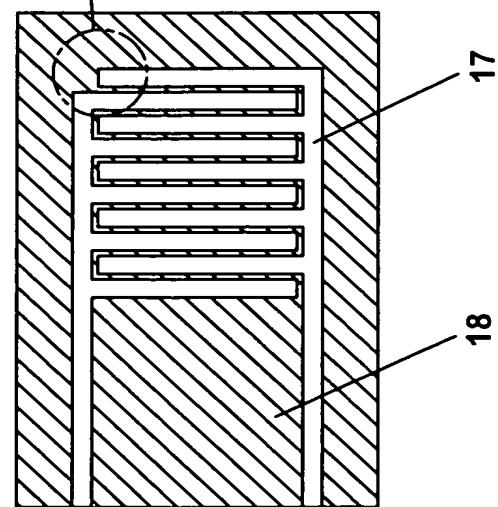


FIG. 6



7/22

8/22

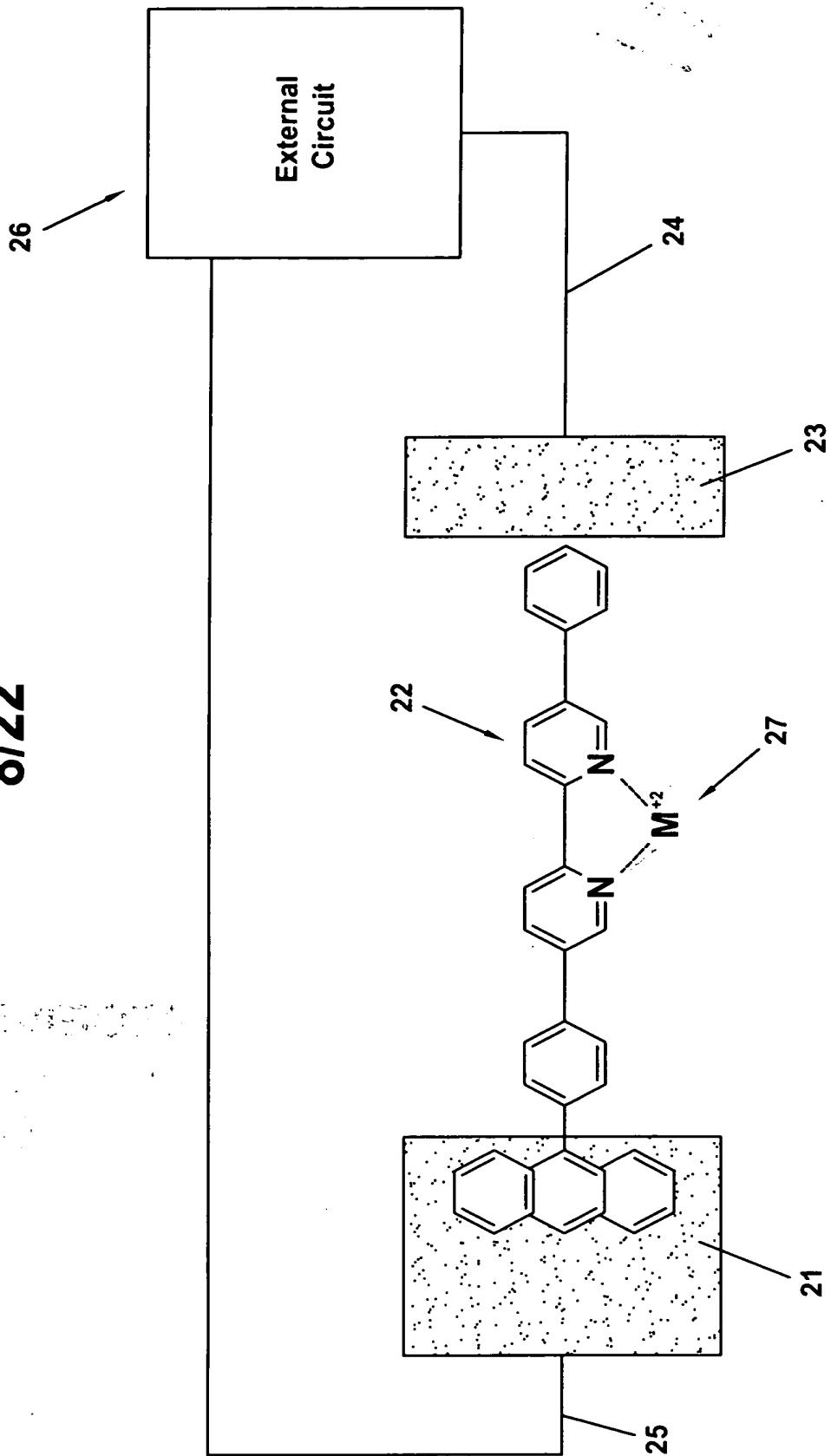


FIG. 7

9/22

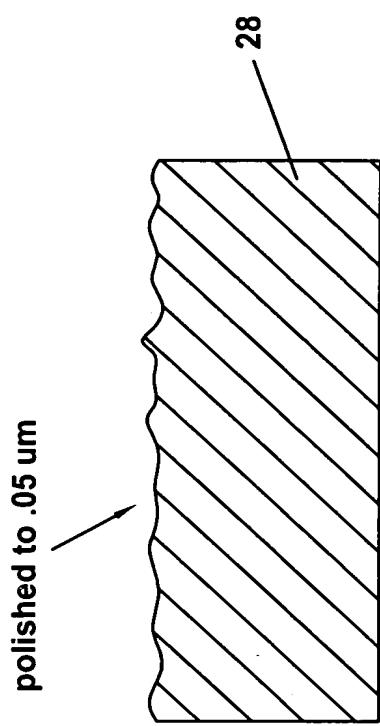
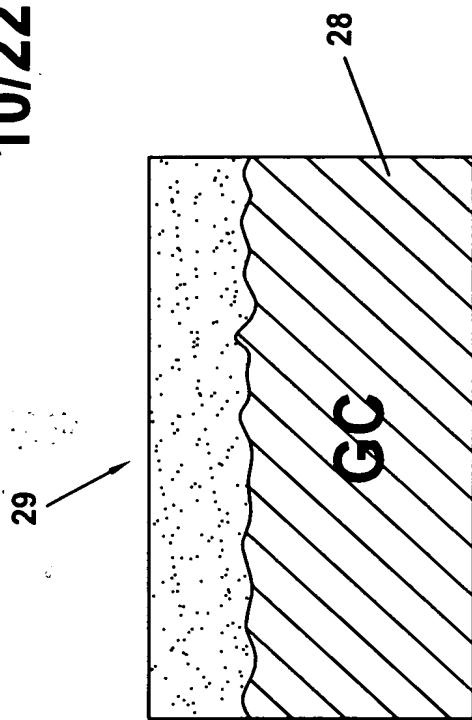


FIG. 8

10/22



1000°, H₂/N₂ atmosphere

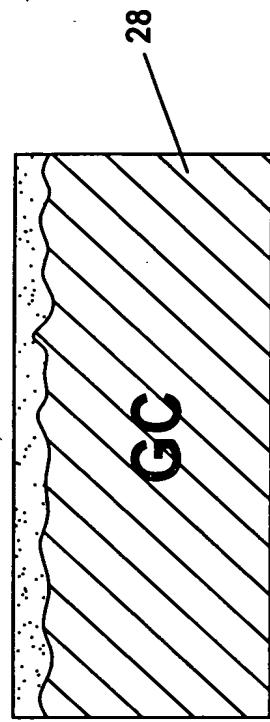


FIG. 9

11/22

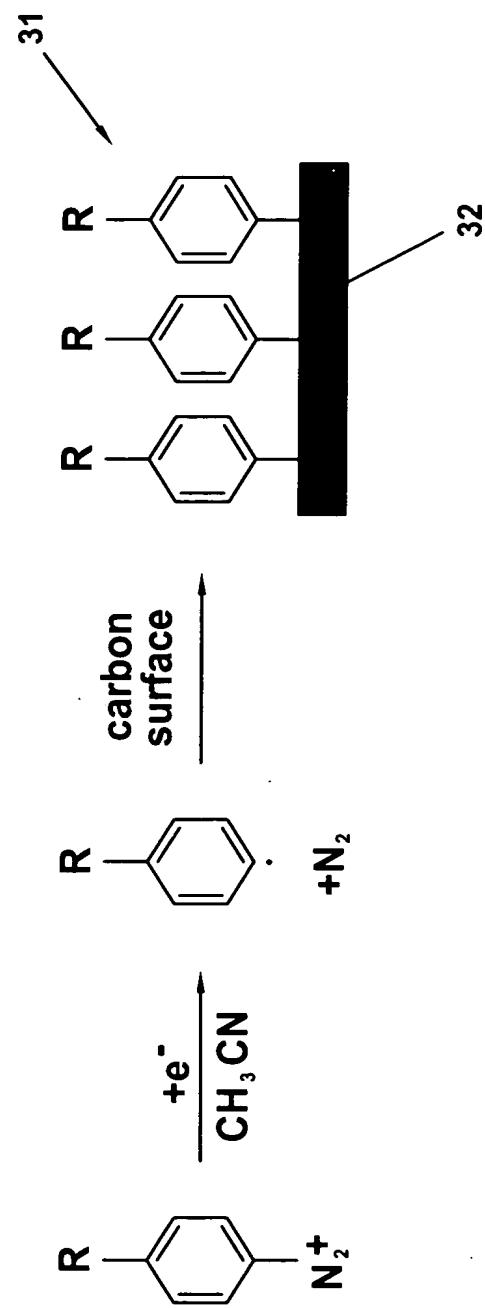


FIG. 10

12/22

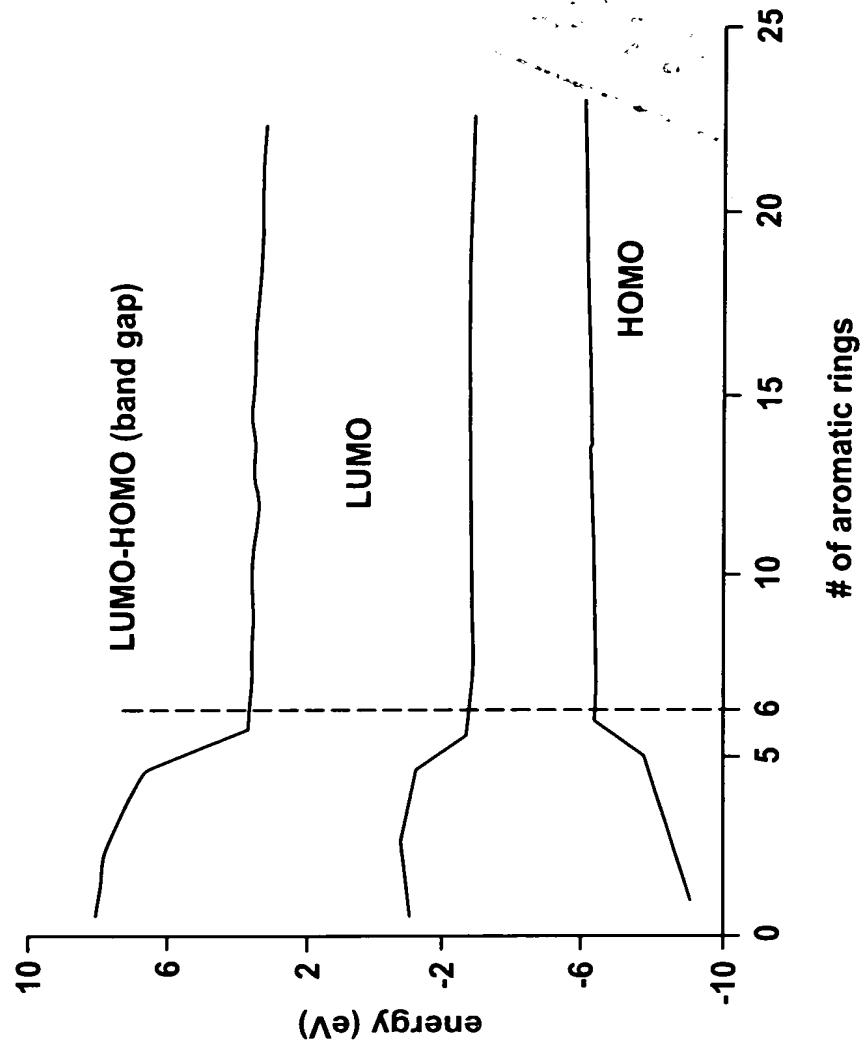
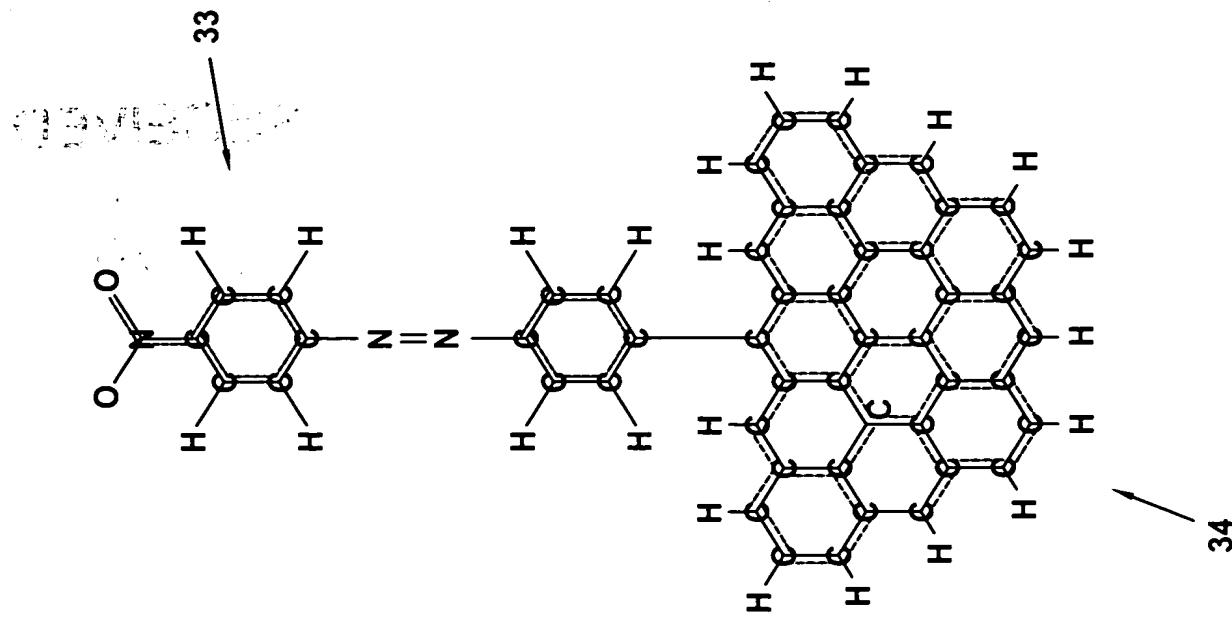


FIG. 11



13/22

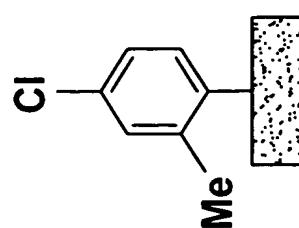
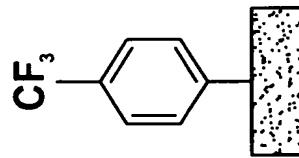
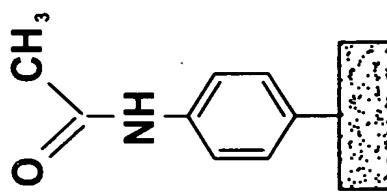
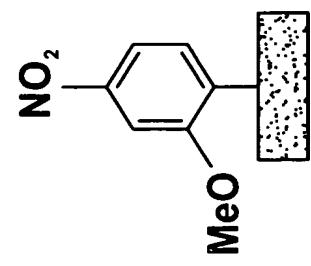
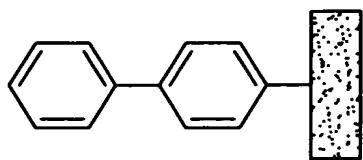
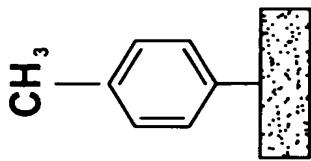
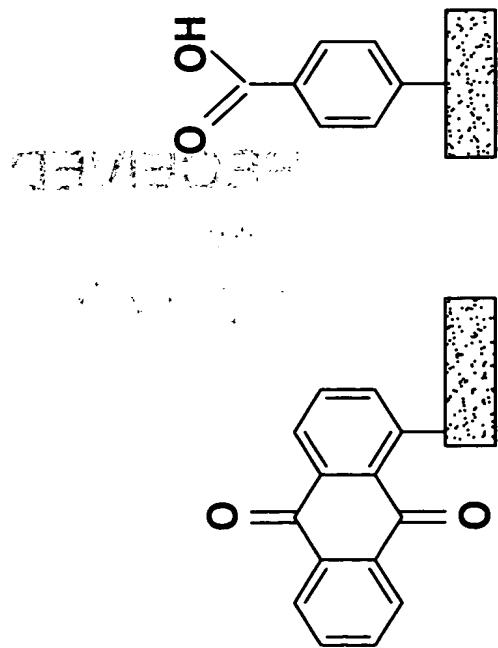
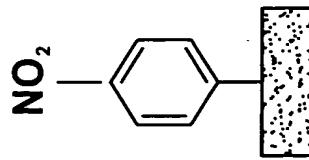
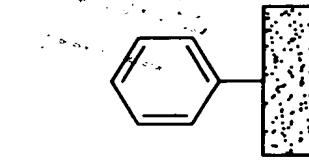


FIG. 12



14/22

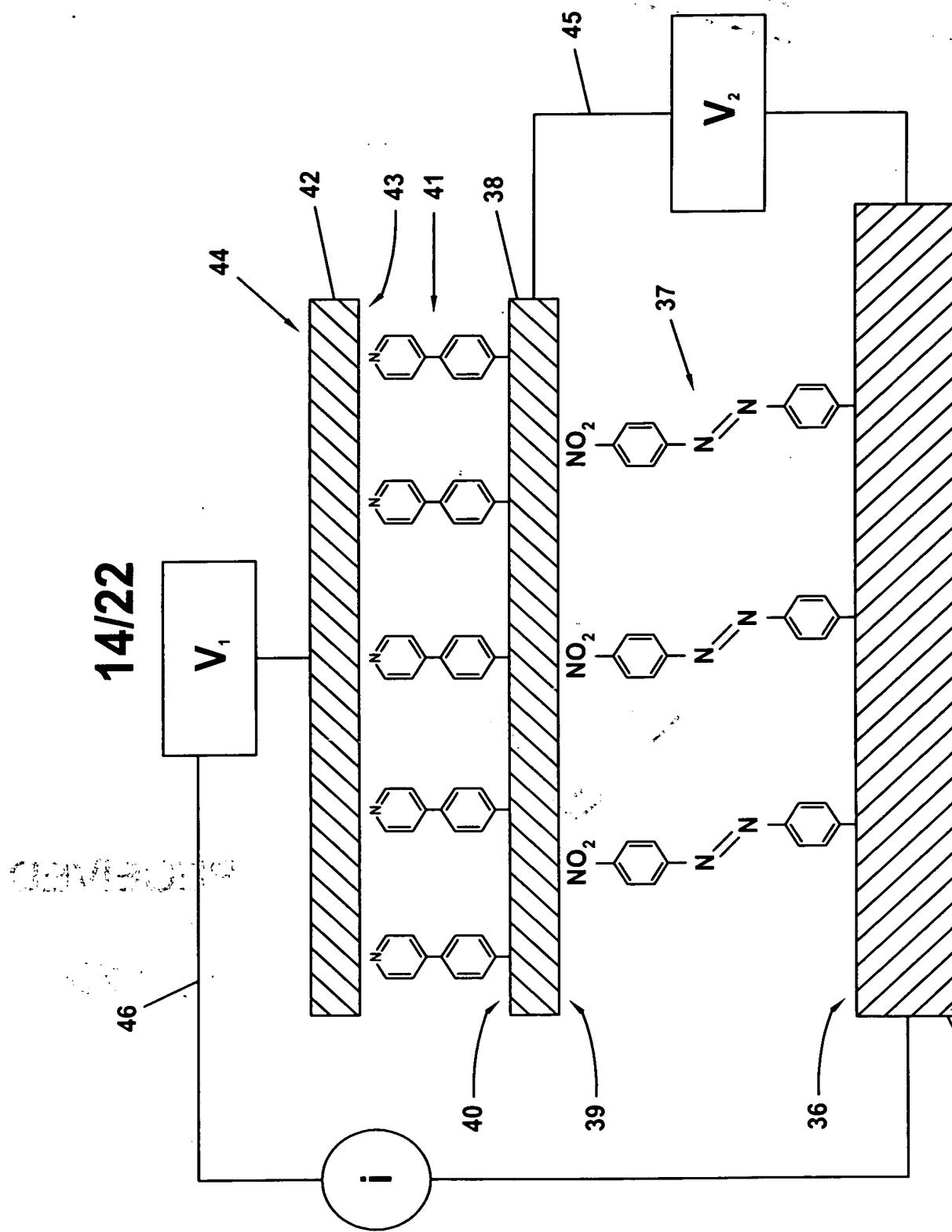
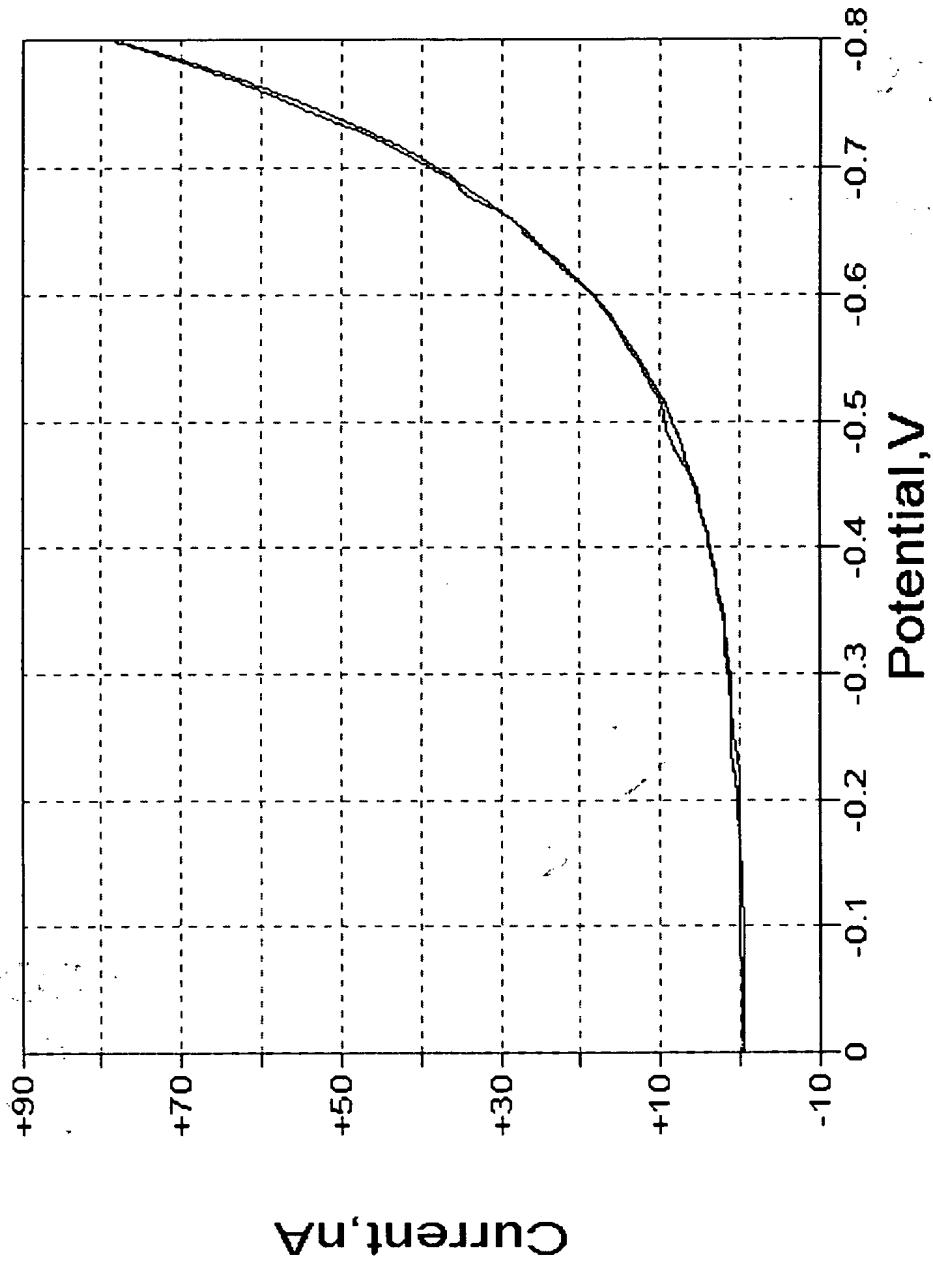


FIG. 13

15/22



$$E = -330.0 \text{ mV} \quad i = +5.455 \times 10^{-8} A$$

FIG. 14

16/22

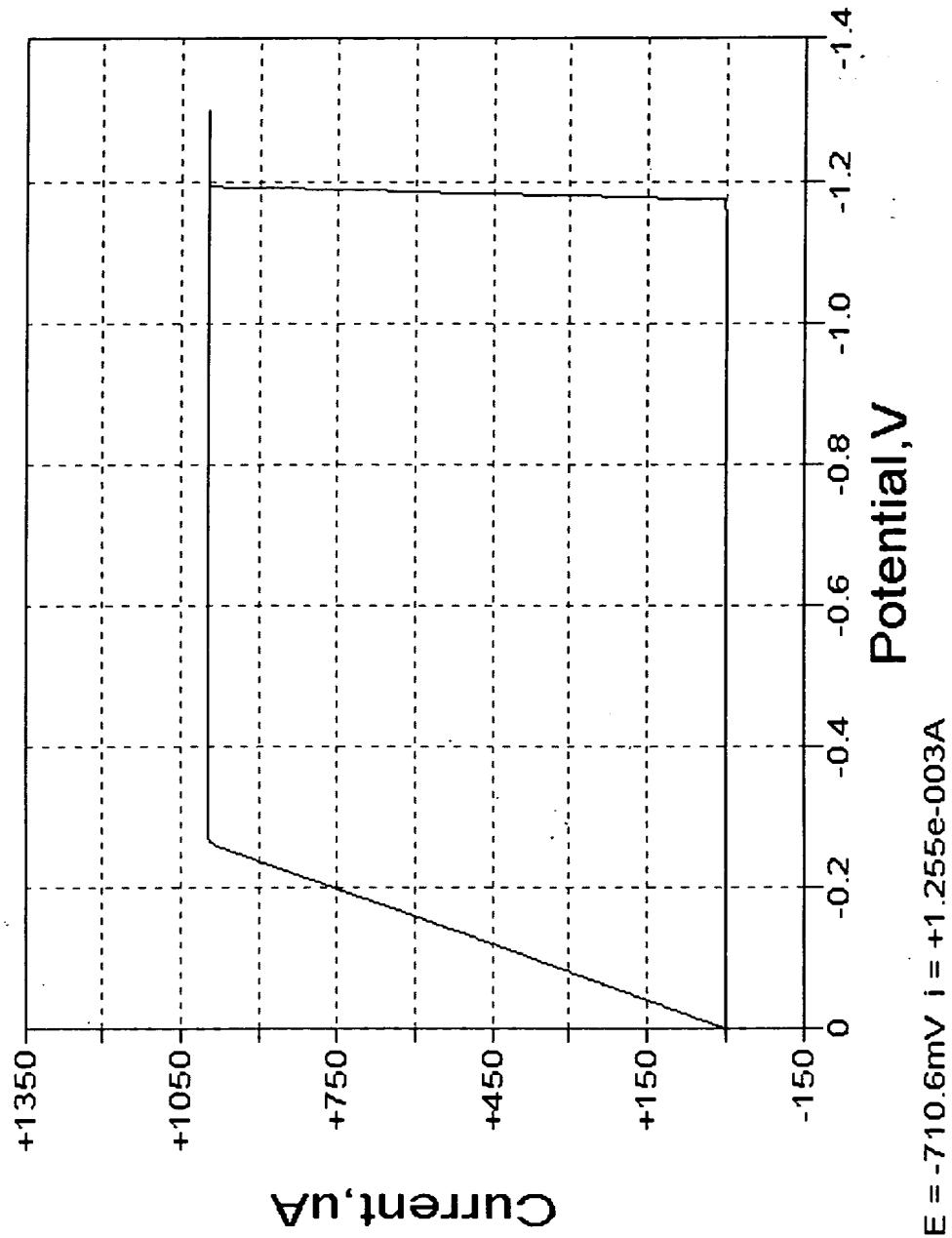


FIG. 15

17/22

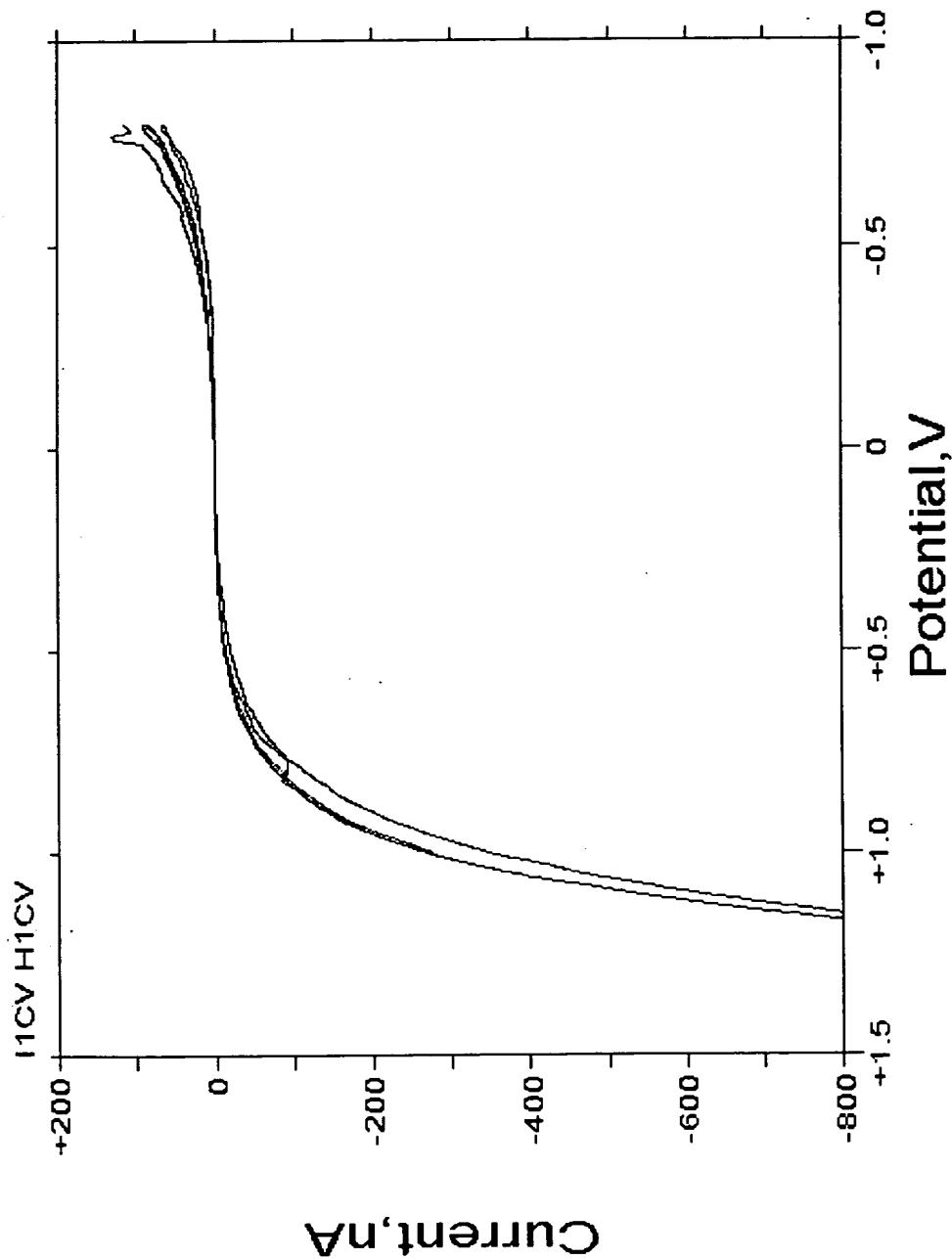


FIG. 16

18/22

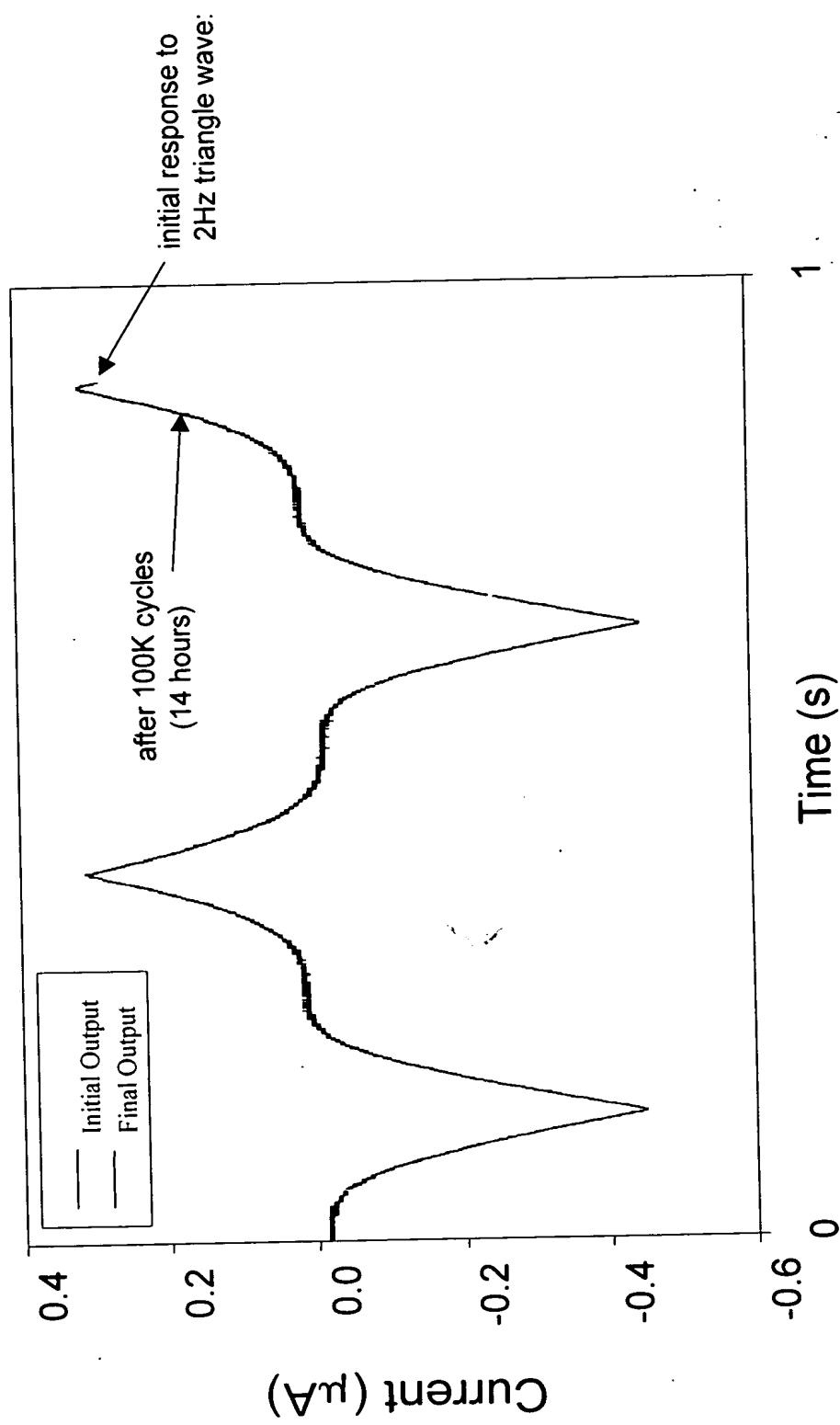


FIG.17

19/22

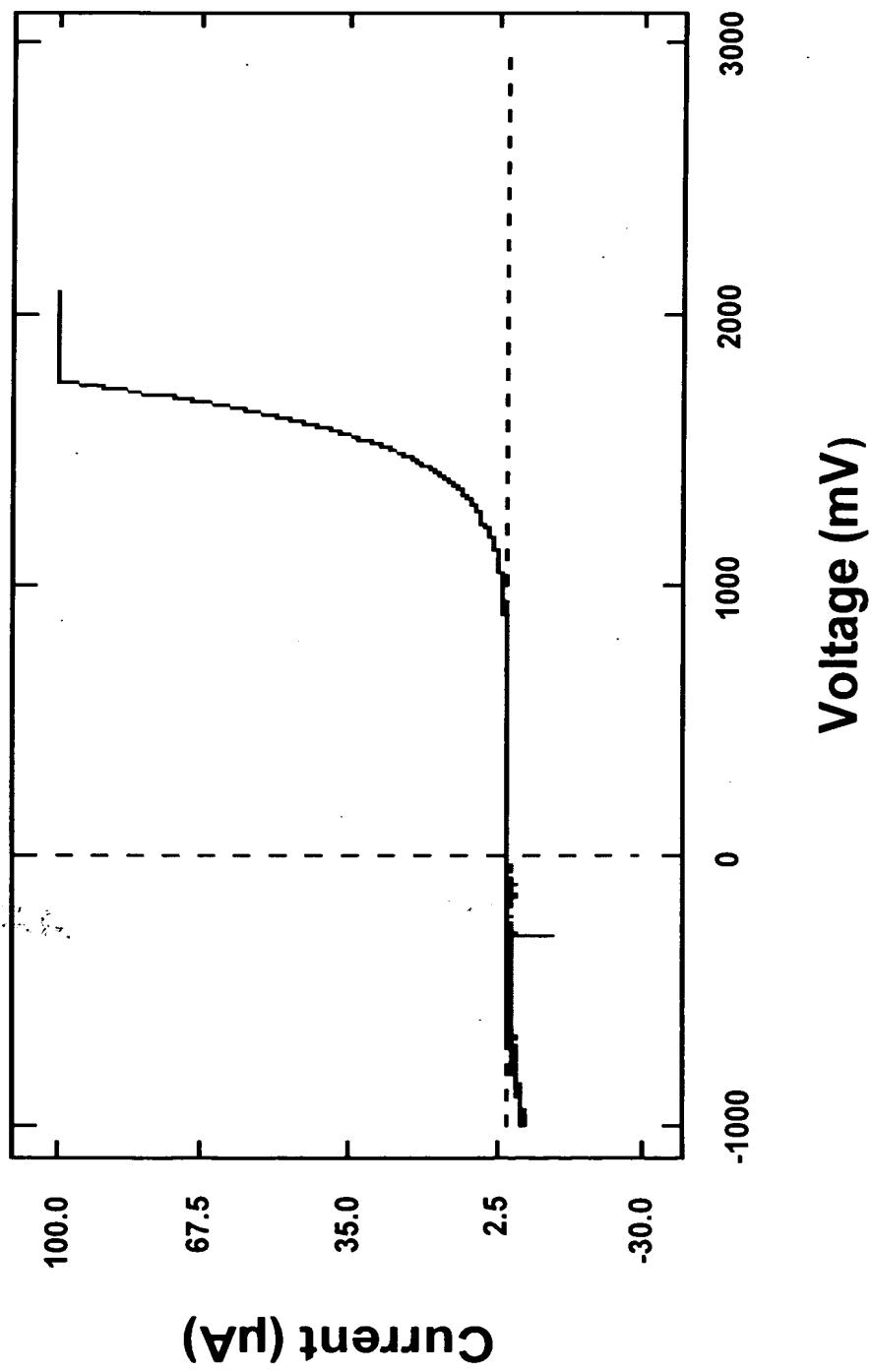


FIG. 18

20/22

Voltage $^{1/2}$

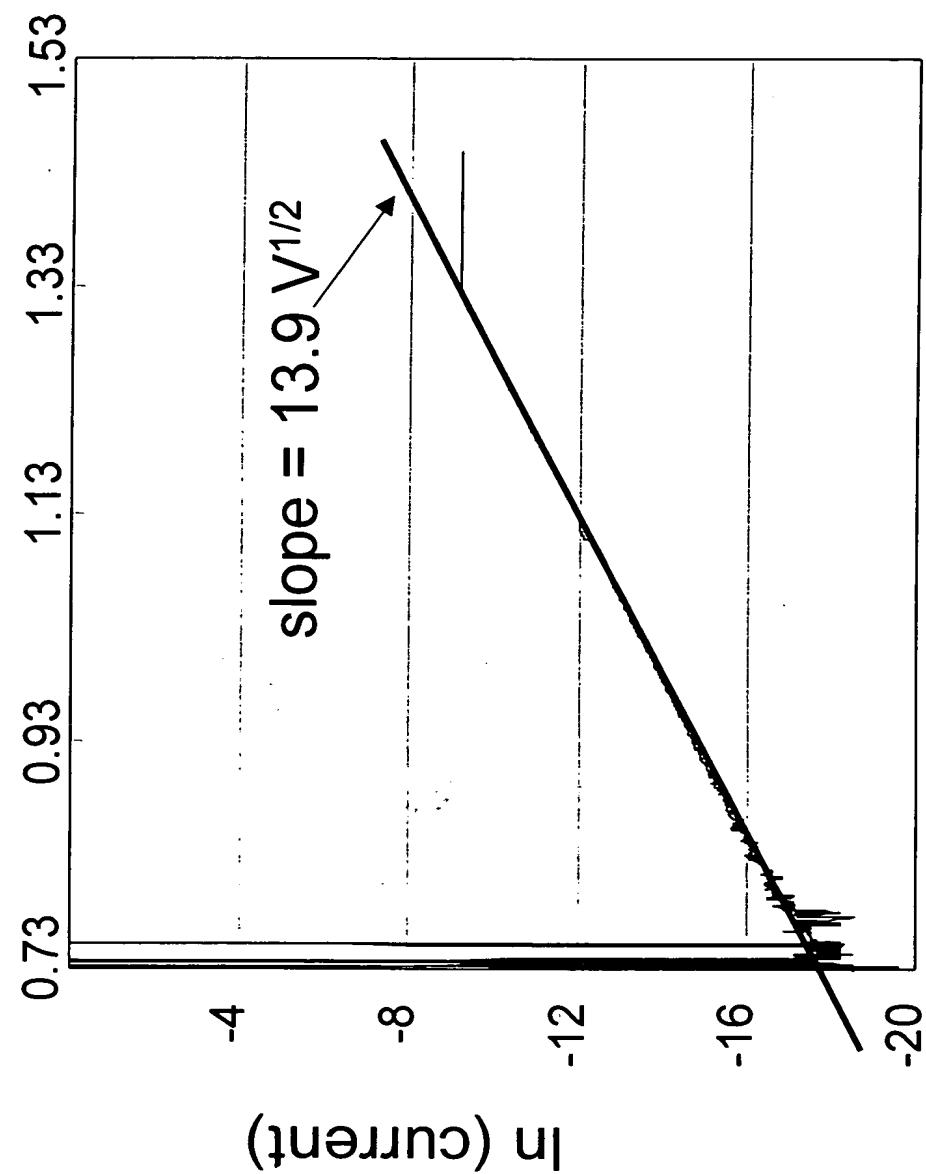


FIG.19

21/22

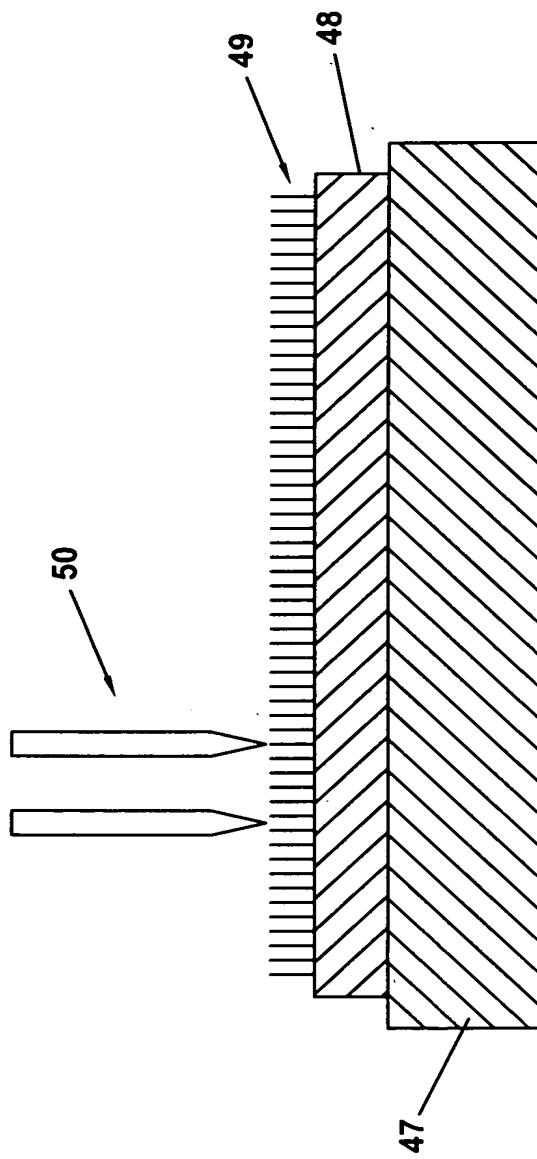


FIG. 20

22/22

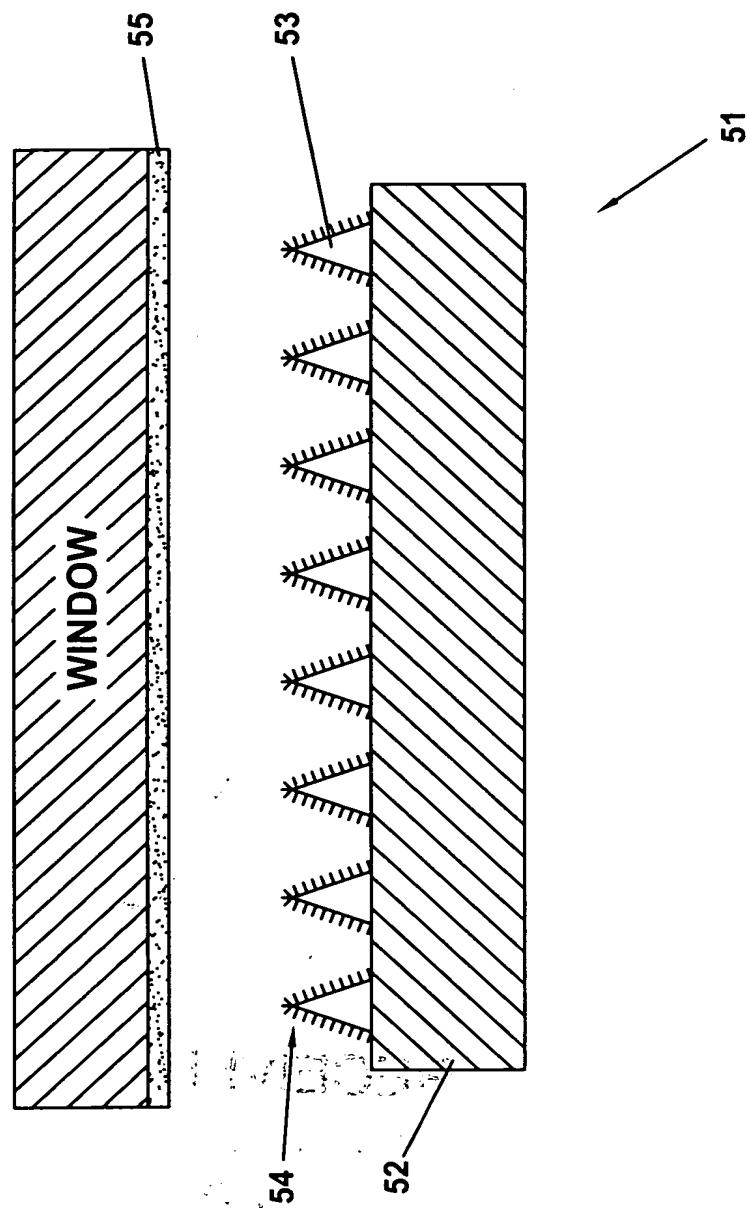


FIG. 21